

5'	9	18	27	36	45	54
NNC GAT ACT ATA AAT TCA TGC ATC AGG ATA GGC AAG GAG TGG CAA GGA ATT TAC						
63	72	81	90	99	108	
TAT GCC AAA AAG AAA AAC GGA GAT AAT ATA CAA CAA AAT GTG AAG ATA ATA CCT						
117	126	135	144	153	162	
GTC ATT GGA CAG GGA GGA AAA ATT AGA CAC TAT GTG TCC ATT ATC AGA GTG TGC						
171	180	189	198	207	216	
AAT GGC AAC AAT AAG GCT GAG AAA ATA TCC GAA TGT GTT CAG TCT GAC ACT CAT						
225	234	243	252	261	270	
ACA GAT AAT CAG ACA GGC AAA CAT AAA GAC AGG AGA AAA GGC TCA CTA GAC GTC						
279	288	297	306	315	324	
AAA GCT GTT GCC TCC CGT GCA ACT GAA GAA GTT TCC AGC CAG AGA CGA CAC TCT TCC						
333	342	351	360	369	378	
ATG GCC CGG ATA CAT TCC ATG ATG ACA ATT GAG GCG CCC ATC ACC AAG GTA ATC AAT						
M A R I H S M T I E A P I T K V I N						
387	396	405	414	423	432	
ATT ATC AAT GCT GCC CAG GAA AGT AGT CCC ATG CCT GTG ACA GAA GCC CTA GAC						
I I N A A Q E S S P M P V T E A L D						

FIGURE 1A

441	450	459	468	477	486
CGT GTG CTG GAA ATT CTA AGA ACC ACT GAG TTA TAT TCA CCA CAG TTT GGT GCT					
R V L E I L R T T E L Y S P Q F G A					
495	504	513	522	531	540
AAA GAT GAT GAT CCC CAT GCC AAT GAC CTT GTT GGG GGC TTA ATG TCT GAT GGT					
K D D D P H A N D L V G G L M S D G					
549	558	567	576	585	594
TTG CGA AGA CTA TCA GGG AAT GAA TAT GTT CTT TCA ACA AAA AAC ACT CAA ATG					
L R R L S G N E Y V L S T K N T Q M					
603	612	621	630	639	648
GTT TCA AGC AAT ATA ATC ACT CCC ATC TCC CTT GAT GAT GTC CCA CCA CGG ATA					
V S S N I I T P I S L D D V P P R I					
657	666	675	684	693	702
GCT CGG GCC ATG GAA AAT GAG GAA TAC TGG GAC TTT GAT ATT TTT GAA CTG GAG					
A R A M E N E E Y W D F D I F E L E					
711	720	729	738	747	756
GTT GCC ACC CAC AAT AGG CCT TTG ATT TAT CTT GGT CTC AAA ATG TTT GCT CGC					
V A T H N R P L I Y L G L K M F A R					
765	774	783	792	801	810
TTT GGA ATC TGT GAA TTC TTA CAC TGC TCC GAG TCA ACG CTA AGA TCA TGG TTA					
F G I C E F L H C S E S T L R S W L					

FIGURE 1B

819	828	837	846	855	864
CAA ATT ATC GAA GCC AAT TAT CAT TCC TCC AAT CCC TAC CAC AAT TCT ACA CAT					
Q I I E A N Y H S S N P Y H N S T H					
873	882	891	900	909	918
TCCT GCT GAT GTG CTT CAT GCC ACT GCC TAT TTT CTC TCC AAG GAG AGG ATA AAG					
S A D V L H A T A Y F L S K E R I K					
927	936	945	954	963	972
GAA ACT TTA GAT CCA ATT GAT GAG GTC GCT GCA CTC ATC GCA GCC ACC ATT CAT					
E T L D P I D E V A A L I A A T I H					
981	990	999	1008	1017	1026
GAT GTG GAT CAC CCT GGG AGA ACC AAC TCC TTC CTG TGT AAT GCT GGA AGT GAG					
D V D H P G R T N S F L C N A G S E					
1035	1044	1053	1062	1071	1080
CTG GCC ATT TTG TAC AAT GAC ACT GCT GTG CTG GAG AGC CAC CAT GCG GCC TTG					
L A I L Y N D T A V L E S H A A L					
1089	1098	1107	1116	1125	1134
GCC TTC CAG CTG ACC ACT GGA GAT GAT AAA TGC AAT ATA TTT AAA AAC ATG GAG					
A F Q L T T G D D K C N I F K N M E					
1143	1152	1161	1170	1179	1188
AGG AAT GAT TAT CGG ACA CTG CGC CAG GGG ATT ATC GAC ATG GTC TTA GCC ACA					
R N D Y R T L R Q G I I D M V L A T					

FIGURE 1C

1197	1206	1215	1224	1233	1242
GAA ATG ACA AGG CAC TTT GAG CAT GTC AAC AAA TTT GTC AAC AGC ATC AAC AAA					
E M T R H F E H V N K F V N S I N K					
1251	1260	1269	1278	1287	1296
CCC TTG GCA ACA CTA GAA GAA AAT GGG GAA ACT GAT AAA AAC CAG GAA GTG ATA					
P L A T L E E N G E T D K N Q E V I					
1305	1314	1323	1332	1341	1350
AAC ACT ATG CTT AGG ACT CCA GAG AAC CGG ACC CTA ATC AAA CGA ATG CTG ATT					
N T M L R T P E N R R T L I K R M L I					
1359	1368	1377	1386	1395	1404
AAA TGT GCT GAT GTG TCC AAT CCC TGC CGA CCC CTG CAG TAC TGC ATC GAG TGG					
K C A D V S N P C R P L Q Y C I E W					
1413	1422	1431	1440	1449	1458
GCT GCA CGC ATT TCG GAA GAA TAT TTT TCT CAG ACT GAT GAA GAG AAG CAG CAG					
A A R I S E E Y F S Q T D E E K Q Q					
1467	1476	1485	1494	1503	1512
GGC TTA CCT GTG GTG ATG CCA GTG TTT GAC AGA AAT ACC TGC AGC ATC CCC AAA					
G L P V V M P P V F D R N T C S I P K					
1521	1530	1539	1548	1557	1566
TCC CAA ATC TCT TTC ATT GAT TAC TTC ATC ACA GAC ATG TTT GAT GCT TGG GAT					
S Q I S F I D Y F I T D M F D A W D					

FIGURE 1D

1575	1584	1593	1602	1611	1620
GCC TTT GTA GAC CTG CCT GAT TTA ATG CAG CAT CTT GAC AAC AAC TTT AAA TAC					
A F V D L P D L M Q H L D N N F K Y					
1629	1638	1647	1656	1665	1674
TGG AAA GGA CTG GAC GAA ATG AAG CTG CGG AAC CTC CGA CCA CCT CCT GAA TAG					
W K G L D E M K L R N L R P P E					
1683	1692	1701	1710	1719	1728
TGG GAG ACA CCA CCC AGA GCC CTG AAG CTT TGT TCC TTC TTT CAT TTG GAA TTC					
1737	1746	1755	1764	1773	1782
CTG AGG GCA RAC CAG AGC TCC TTG GTC CTT TCA GTR CWA GGC AGN ANA CAG CCC					
1791	1800	1809	1818	1827	1836
CCG ATC TGY ATA GCC TGT GAA AGC CCR CGG GGA CAT CAG TAA CCT TCT KCA GCC					
1845	1854	1863	1872	1881	1890
ACC ATC CAA TGC CAT TAC TGT CAA GTG AGA CTT GGC CMC TGT ARC CTG GGC CTK					
1899	1908	1917	1926	1935	1944
CTK CAG GAG CTC TTC AGA AAG GCA CAT KAG GAC CAC GGN TTT SGC TCA GTT TCT					

FIGURE 1E

1953	1962	1971	1980	1989	1998
GGT AAA ACA CAA GGT CTG GAG TKC CCC TGC MAA GGG TAT TGA TGG ACT TCC TKC					
2007	2016	2025	2034	2043	2052
CAG TGA CAG AGC ATG TCT ATT TCC AAC AAT TCT CTC ANT TAC GTT CAA CAC TTA					
2061	2070	2079	2088	2097	2106
AGA ACG GCT AAT GGC AAT AGG ATC TTT AAC AAC TTT TTC ACA TCA NAG NAG GTT					
2115	2124	2133	2142	2151	2160
CAA TCG CTC ACT TGG GNA CAC NAC TGA GAG TGA CTT CTC TTT TAA AAT TGA GTA					
2169	2178	2187	2196		
ACA GAT GGA AAA ATA AAA TTT GGA CTT GAT TAT TAA NAT CCC N 3'					

FIGURE 1F

5' NNC ATC AAC AAG CCA ATG GCA GCT GAG ATT GAA GGC AGC GAC TGT GAA TGC AAC	9	18	27	36	45	54
X I N K P M A A E I E G S D C E C N						
63 CCT GCT GGG AAG AAC TTC CCT GNA AAC CAA ATC CTG ATC AAA NGC ATG ATG ATT	72	81	90	99	108	
P A G K N F P X N Q I L I K X M M I						
117 AAG TGT GCT GAN GNG GNC AAC CCA TGC CGA CCC TTG GAC CTG TGC ATT GAA TGG	126	135	144	153	162	
K C A X X X N P C R P L D L C I E W						
171 GCT GGG AGG ATC TCT GAG GAG TAT TTT GCA CAG ACT GAT GAA GAG AAG AGA CAG	180	189	198	207	216	
A G R I S E E Y F A Q T D E E K R Q						
225 GGA CTA CCT GTG GTG ATG NCA GTG TTT GAC C 3'	234	243				
G L P V V M X V F D						

FIGURE 2

5' CTT GCC TGT TTC CTG GAC AAA CAT CAT GAC ATT ATC ATC ATA GAC CAC AGA AAT L A C F L D K H H D I I I I D H R N	9	18	27	36	45	54
63 CAG CTG GAT GCA GAG GCA CTG TGC AGG TCT ATC AGA TCA TCA AAA CTC P R Q L D A E A L C R S I R S S K L	63	72	81	90	99	108
117 AAC ACA GTT ATT GTT GGT GTA GTA CGC AGG GTG GAT AGA GAA GAG TTG S E N T V I V G V V R R R V D R E E L	117	126	135	144	153	162
171 ATG CCT TTC ATT TCT GCT GGA TTT ACA AGG AGG TAT GTA GAA AAC CCC S V M P F I S A G G F T R R Y V E N P	171	180	189	198	207	216
225 ATG GCC TGC TAC AAT GAA CTG CTC CTG GAG TTT GGA GAG GTG CGA N I M A C Y N E L L L Q L E F G E V R	225	234	243	252	261	270
279 CAA CTC AGG GCT TGT AAC TCA GTA TTC ACT GCA TTA GAA AAC AGT S Q L K L R A C N S V F T A L E N S	279	288	297	306	315	324
333 GAT GCA ATT GAA ATT ACA AGC GAA GAC CGT TTT ATA CAG TAT GCA AAT CCT E D A I E I T S E D R R F I Q Y A N P	333	342	351	360	369	378

FIGURE 3A

387	396	405	414	423	432
GCA TTT GAA ACA ACA ATG GGC TAT CAG TCA GGT GAA TTA ATA GGG AAG GAG TTA					
A F E T T M G Y Q S G E L I G K E L					
441	450	459	468	477	486
GGA GAA GTG CCT ATA AAT GAA AAA AAG GCT GAC TTG CTC GAT ACT ATA AAT TCA					
G E V P I N E K K A D L L D T I N S					
495	504	513	522	531	540
TGC ATC AGG ATA GGC AAG GAG TGG CAA GGA ATT TAC TAT GCC AAA AAG AAA AAC					
C I R I G K E W Q G I Y Y A K K N					
549	558	567	576	585	594
GGA GAT AAT ATA CAA AAT GTG AAG ATA ATA CCT GTC ATT GGA CAG GGA GGA					
G D N I Q Q N V K I I P V I G Q G G					
603	612	621	630	639	648
AAA ATT AGA CAC TAT GTG TCC ATT ATC AGA GTG TGC AAT GGC AAC AAT AAG GCT					
K I R H Y V S I I R V C N G N K A					
657	666	675	684	693	702
GAG AAA ATA TCC GAA TGT GTT CAG TCT GAC ACT CGT ACA GAT AAT CAG ACA GGC					
E K I S E C V Q S D T R T D N Q T G					
711	720	729	738	747	756
AAA CAT AAA GAC AGG AGA AAA GGC TCA CTA GAC GTC AAA GCT GTT GCC TCC CGT					
K H K D R R K G S L D V K A V A S R					

FIGURE 3B

765	774	783	792	801	810
GCA ACT GAA GTT TCC AGC CAG AGA CGA CAC TCT TCC ATG GCC CGG ATA CAT TCC					
A T E V S S Q R R H S S M A R I H S					
819	828	837	846	855	864
ATG ACA ATT GAG GCG CCC ATC ACC AAG GTA ATC AAT GTT ATC AAT GCT GCC CAG					
M T I E A P I T K V I N V I N A A Q					
873	882	891	900	909	918
GAA AGT AGT CCC ATG CCT GTG ACA GAA GCC CTA GAC CGT GTG CTG GAA ATT CTA					
E S S P M P V T E A L D R V L E I L					
927	936	945	954	963	972
AGA ACC ACT GAG TTA TAT TCA CCA CAG TTT GGT GCT AAA GAT GAT GAT CCC CAT					
R T T E L Y S P Q F G A K D D P H					
981	990	999	1008	1017	1026
GCC AAT GAC CTT GTT GGG GGC TTA ATG TCT GAT GGT TTG CGA AGA CTA TCA GGG					
A N D L V G G L M S D G L R R L S G					
1035	1044	1053	1062	1071	1080
AAT GAA TAT GTT CTT TCA ACA AAA AAC ACT CAA ATG GTT TCA AGC AAT ATA ATC					
N E Y V L S T K N T Q M V S S N I I					
1089	1098	1107	1116	1125	1134
ACT CCC ATC TCC CTT GAT GAT GTC CCA CCA CGG ATA GCT CGG GCC ATG GAA AAT					
T P I S L D D V P P R I A R A M E N					

FIGURE 3C

1143	1152	1161	1170	1179	1188
GAG GAA TAC TGG GAC TTT GAT ATT TTT GAA CTG GAG GCT GCC ACC CAC AAT AGG					
E E Y W D F D I F E L E A A T H N R					
1197	1206	1215	1224	1233	1242
CCT TTG ATT TAT CTT GGT CTC AAA ATG TTT GCT CGC TTT GGA ATC TGT GAA TTC					
P L I Y L G L K M F A R F G I C E F					
1251	1260	1269	1278	1287	1296
TTA CAC TGC TCC GAG TCA ACG CTA AGA TCA TGG TTA CAA ATT ATC GAA GCC AAT					
L H C S E S T L R S W L Q I I E A N					
1305	1314	1323	1332	1341	1350
TAT CAT TCC TCC AAT CCC TAC CAC AAT TCT ACA CAT TCT GCT GAT GTG CTT CAT					
Y H S S N P Y H N S T H S A D V L H					
1359	1368	1377	1386	1395	1404
GCC ACT GCC TAT TTT CTC TCC AAG GAG AGG ATA AAG GAA ACT TTA GAT CCA ATT					
A T A Y F L S K E R I K E T L D P I					
1413	1422	1431	1440	1449	1458
GAT GAG GTC GCT GCA CTC ATC GCA GCC ACC ATT CAT GAT GTG GAT CAC CCT GGG					
D E V A A L I A A T I H D V D H P G					
1467	1476	1485	1494	1503	1512
AGA ACC AAC TCC TTC CTG TGT AAT GCT GGA AGT GAG CTG GCC ATT TTG TAC AAT					
R T N S F L C N A G S E L A I L Y N					

FIGURE 3D

1521	1530	1539	1548	1557	1566
GAC ACT GCT GTG CTG GAG AGC CAC CAT GCG GCC TTG GCC TTC CAG CTG ACC ACT					
D T A V L E S H H A A L A F Q L T T					
1575	1584	1593	1602	1611	1620
GGA GAT GAT AAA TGC AAT ATA TTT AAA AAC ATG GAG AGG AAT GAT TAT CGG ACA					
G D D K C N I F K N M E R N D Y R T					
1629	1638	1647	1656	1665	1674
CTG CGC CAG GGG ATT ATC GAC ATG GTC TTA GCC ACA GAA ATG ACA AAG CAC TTT					
L R Q G I I D M V L A T E M T K H F					
1683	1692	1701	1710	1719	1728
GAG CAT GTC AAC AAA TTT GTC AAC AGC ATC AAC AAA CCC TTG GCA ACA CTA GAA					
E H V N K F V N S I N K P L A T L E					
1737	1746	1755	1764	1773	1782
GAA AAT GGG GAA ACT GAT AAA AAC CAG GAA GTG ATA AAC ACT ATG CTT AGG ACT					
E N G E T D K N Q E V I N T M L R T					
1791	1800	1809	1818	1827	1836
CCA GAG AAC CGG ACC CTA ATC AAA CGA ATG CTG ATT AAA TGT GCT GAT GTG TCC					
P E N R T L I K R M L I K C A D V S					
1845	1854	1863	1872	1881	1890
AAT CCC TGC CGA CCC CTG CAG TAC TGC ATC GAG TGG GCT GCA CGC ATT TCG GAA					
N P C R P L Q Y C I E W A A R I S E					

FIGURE 3E

1899	1908	1917	1926	1935	1944
GAA TAT TTT TCT CAG ACT GAT GAA GAG AAG CAG CAG GGC TTA CCT GTG GTG ATG					
E Y F S Q T D E E K Q Q Q G L P V V M					
1953	1962	1971	1980	1989	1998
CCA GTG TTT GAC AGA AAT ACC TGC AGC ATC CCC AAA TCC CAA ATC TCT TTC ATT					
P V F D R N T C S I P K S Q I S F I					
2007	2016	2025	2034	2043	2052
GAT TAC TTC ATC ACA GAC ATG TTT GAT GCT TGG GAT GCC TTT GTA GAC CTG CCT					
D Y F I T D M F D A W D A F V D L P					
2061	2070	2079	2088	2097	2106
GAT TTA ATG CAG CAT CTT GAC AAC AAC TTT AAA TAC TGG AAA GGA CTG GAC GAA					
D L M Q H L D N N F K Y W K G L D E					
2115	2124	2133	2142	2151	2160
ATG AAG CTG CGG AAC CTC CGA CCT CCT GAA TAG TGG GAG ACA CCA CCC AGA					
M K L R N L R P P P E					
2169	2178	2187	2196	2205	2214
GCC CTG AAG CTT TGT TCC TTC GGT CAT TTG GAA TTC CTG AGG GCA GCC AGA GCT					
2223	2232	2241	2250	2259	2268
CCT TGG TCC TTT CAG TAC TAG GCA GAA CAG CCC CCG ATC TGC ATA GCC TGT GAA					

FIGURE 3F

2277	2286	2295	2304	2313	2322
AGC CCA CGG GGA CAT CAG TAA CCT TCT GCA GCC ACC ATC CAA TGC CAT TAC TGT					
2331	2340	2349	2358	2367	2376
CAA GTG AGA CTT GGC CAC TGT AGC CTG GGC CTG CAG GAG CTC TTC AGA AAG					
2385	2394	2403	2412	2421	2430
GCA CAT GAG GAC CAC GGT TTG CCT CAG TTT CTG GTA AAA CAC AAG GTC TGG AGT					
2439	2448	2457	2466	2475	2484
GCC CCT GCA AAG GGT ATT GAT GGA CTT CCT GCC AGT GAC AGA GCA TGT CTA TTG					
2493	2502	2511	2520	2529	2538
CAA ACA ATT CTC TCA GTT ACG TTC AGC ACT TAA GAA CGG CTA ATG GCA ATA GGA					
2547	2556	2565	2574	2583	2592
TCT TTA GCA ACT TTT TCA CAT CAT AGA AGG TGC AAT CGC TCA CTT GGG AAC ACT					
2601	2610	2619	2628	2637	2646
ACT GAG AGT GAC TTC TCT TTT AAA ATT GAG TAG CAG ATG AAA AAT TAA AAT TTG					
2655	2664	2673	2682	2691	2700
AAC TTG ATT ATT AAT ATC AAT TAA AAT GTT TTA TTT ATT TTA TTA AAA GCT CAA					
2709	2718	2727	2736	2745	2754
TAT TTT CTA TGA ATT CAA AAA TAC TTC AGA GCC AAA GCC AAC TTC AAA TAC CGT					

FIGURE 3G

2763	2772	2781	2790	2799	2808
GAC CAA ATT TAC ATG ATT CAT ATT CAT TAT GCA TTA CTT GGT ATA CAG ACT TAT					
2817	2826	2835	2844	2853	2862
TTT CAT AAT GCA AAT TAA TAA AAT GAC ACT TTT ACT GCA CTA TAG AAA TAT TCA					
2871	2880	2889	2898	2907	2916
TGT ATG TTA AAC TTT TCT GAT TGA GGC TAA CTG GAA AAA GCT GGG GTC GTA TTC					
2925	2934	2943	2952	2961	2970
TAA GTG CTA AAG AAG GCT GCT TCT ACT GFA TAG AAC CCA GGG CTC TGA AAC AGC					
2979	2988	2997	3006	3015	3024
TCT AGC CGC CTA ATG CAC TTC ACA GGT AAC AAC TCC CCA AGG TAA AAC TAG ACT CTC					
3033	3042	3051	3060	3069	3078
TTG TTG GTT CGC AAA GAA AAG TTA GGA CTT AAC ACT TTT TTC TAA AAT TTT ATA					
3087	3096	3105	3114	3123	3132
ATT CAA TTT CCA AAA GTC TAC TCT ATT TTA TAC TGT TTC TAC AAA ATA TTC CTT					
3141	3150	3159	3168	3177	3186
ATA AAA ACA AAG AAC AAA AAT TGA ATA TTT AAT GAA TTG ACA TTT TAT AAC CAA					

FIGURE 3H

3195 3204 3213 3222 3231 3240
CCT GTT TTT ATC TAC GGT GGG AAT CTT TGA TGC CAG AAA TTT ATA AAG AGG TTC

3249 3258 3267 3276 3285 3294
TGT ATC TTC ACA CCT TGA ATA AGC ATA ATA CCA TAA AAA ATG ACA CTT GAC ATG

3303 3312 3321 3330 3339 3348
TCA ATG TAT TTG TCA TTT CAT TTT AAA CTC GTA TTT GTG GTT TTT TTC CCA GAT

3357 3366 3375 3384 3393
AAA AAT GAA ATT AAA CCA TTT CTT TTT AAG AAA AAA AAA AAA AAA 3'

FIGURE 31

5' GCC CTT GAA TGC TTT CTT GAT AAG CAT CAT GAA ATT ATT GTA ATT GAT CAT AGA A L E C F L D K H H E I I V I D H R	9	18	27	36	45	54
CAA ACT CAG AAC TTC GAT GCA GAA GCA GTG TGC AGG TCG ATC CGG GCC ACA AAT Q T Q N F D A E A V C R S I R A T N	63	72	81	90	99	108
CCC TCC GAG CAC ACG GTG ATC CTC GCA GTG GTT TCG CGA GTA TCG GAT GAC CAT P S E H T V I L A V V S R V S D D H	117	126	135	144	153	162
GAA GAG GCG TCA GTC CTT CCT CTT CTC CAC GCA GGC TTC AAC AGG AGA TTT ATG E A S V L L P L L L H A G F N R R F M	171	180	189	198	207	216
GAG AAT AGC AGC ATA ATT GCT TGC TAT AAT GAA CTG AAT CAA ATA GAA CAT GGG E N S S I I A C Y N E L I Q I E H G	225	234	243	252	261	270
GAA GTT CGC TCC CAG TTC AAA TTA CGG GCC TGT AAT TCA GTG TTT ACA GCA TTA E V R S Q F K L R A C N S V F T A L	279	288	297	306	315	324
GAT CAC TGT CAT GAA GCC ATA GAA ATA ACA AGC GAT GAC CAC GTG ATT CAG TAT D H C H E A I E I T S D D H V I Q Y	333	342	351	360	369	378

FIGURE 4A

387	396	405	414	423	432
GTC AAC CCA GCC TTC GAA AGG ATG ATG GGC TAC CAC AAA GGT GAG CTC CTG GGA					
V N P A F E R M M G Y H K G E L L G					
441	450	459	468	477	486
AAA GAA CTC GCT GAT CTG CCC AAA AGC GAT AAG AAC CGG GCA GAC CTT CTC GAC					
K E L A D L P K S D K N R A D L L D					
495	504	513	522	531	540
ACC ATC AAT ACA TGC ATC AAG AAG GGA AAG GAG TGG CAG GGG GTT TAC TAT GCC					
T I N T C I K K G G K E W Q G V Y Y A					
549	558	567	576	585	594
AGA CGG AAA TCC GGG GAC AGC ATC CAA CAG CAC GTG AAG ATC ACC CCA GTG ATT					
R R K S S G D S I Q Q H V K I T P V I					
603	612	621	630	639	648
GGC CAA GGA GGG AAA ATT AGG CAT TTT GTC TCG CTC AAG AAA CTG TGT TGT ACC					
G Q G G K I R H F V S L K K L C C T					
657	666	675	684	693	702
ACT GAC AAT AAT AAG CAG AAT CAC AAG ATT CAT CGT GAT TCA GGA GAC AAT TCT					
T D N N K Q I H K I H R D S G D N S					
711	720	729	738	747	756
CAG ACA GAG CCT CAT TCA TTC AGA TAT AAG AAC AGG AGG AAA GAG TCC ATT GAC					
Q T E P H S F R Y K N R R K E S I D					

FIGURE 4B

765	774	783	792	801	810
GTG AAA TCG ATA TCA TCT CGA GGC AGT GAT GCA CCA AGC CTG CAG AAT CGT CGC					
V K S I S S R G S D A P S L Q N R R					
819	828	837	846	855	864
TAT CCG TCC ATG GCG AGG ATC CAC TCC ATG ACC ATC GAG GCT CCC ATC ACA AAG					
Y P S M A R I H S M T I E A P I T K					
873	882	891	900	909	918
GTT ATA AAT ATA ATC AAT GCA GCC CAA GAA AAC AGC CCA CTC ACA GTA GCG GAA					
V I N I I N A A Q E N S P V T V A E					
927	936	945	954	963	972
GCC TTG GAC AGA GTT CTA GAG ATT TTA CGG ACC ACA GAA CTG TAC TCC CCT CAG					
A L D R V L E I L R T T E L Y S P Q					
981	990	999	1008	1017	1026
CTG GGT ACC AAA GAT GAA GAT CCC CAC ACC AGT GAT CTT GTT GGA GGC CTG ATG					
L G T K D E D P H T S D L V G G L M					
1035	1044	1053	1062	1071	1080
ACT GAC GGC TTG AGA AGA CTG TCA GGA AAC GAG TAT GTG TTT ACT AAG AAT GTG					
T D G L R R L S G N E Y V F T K N V					
1089	1098	1107	1116	1125	1134
CAC CAG AGT CAC AGT CAC CTT GCA ATG CCA ATA ACC ATC AAT GAT GTT CCC CCT					
H Q S H S H L A M P I T I N D V P P					

FIGURE 4C

1143	1152	1161	1170	1179	1188
TGT ATC TCT CAA TTA CTT GAT AAT GAG GAG AGT TGG GAC TTC AAC ATC TTT GAA					
C I S Q L L L D N E E S W D F N I F E					
1197	1206	1215	1224	1233	1242
TTG GAA GCC ATT ACG CAT AAA AGG CCA TTG GTT TAT CTG GGC TTA AAG GTC TTC					
L E A I T H K R P L V Y L G L K V F					
1251	1260	1269	1278	1287	1296
TCT CGG TTT GGA GTA TGT GAG TTT TTA AAC TGT TCT GAA ACC ACT CTT CGG GCC					
S R F G V C E F L N C S E T T L R A					
1305	1314	1323	1332	1341	1350
TGG TTC CAA GTG ATC GAA GCC AAC TAC CAC TCT TCC AAT GCC TAC CAC AAC TCC					
W F Q V I E A N Y H S S N A Y H N S					
1359	1368	1377	1386	1395	1404
ACC CAT GCT GCC GAC GTC CTG CAC GCC ACC GCT TTC TTT CTT GGA AAG GAA AGA					
T H A A D V L L H A T A F F L G K E R					
1413	1422	1431	1440	1449	1458
GTA AAG GGA AGC CTC GAT CAG TTG GAT GAG GTG GCA GCC CTC ATT GCT GCC ACA					
V K G S L D Q L D E V A A L I A A T					
1467	1476	1485	1494	1503	1512
GTC CAT GAC GTG GAT CAC CCG GGA AGG ACC AAC TCT TTC CTC TGC AAT GCA GGC					
V H D V D H P G R T N S F L C N A G					

FIGURE 4D

1521	1530	1539	1548	1557	1566
AGT GAG CTT GCT GTG CTT TAC AAT GAC ACT GCT GTT CTG GAG AGT CAC CAC ACC					
S E L A V L Y N D T A V L E S H T					
1575	1584	1593	1602	1611	1620
GCC CTG GCC TTC CAG CTC ACG GTC AAG GAC ACC AAA TGC AAC ATT TTC AAG AAT					
A L A F Q L L T V K D T K C N I F K N					
1629	1638	1647	1656	1665	1674
ATT GAC AGG AAC CAT TAT CGA ACG CTG CGC CAG GCT ATT ATT GAC ATG GTT TTG					
I D R N H Y R T L R Q A I I D M V L					
1683	1692	1701	1710	1719	1728
GCA ACA GAG ATG ACA AAA CAC TTT GAA CAT GTG AAT AAG TTT GTG AAC AGC ATC					
A T E M T K H F E H V N K F V N S I					
1737	1746	1755	1764	1773	1782
AAC AAG CCA ATG GCA GCT GAG ATT GAA GGC AGC GAC TGT GAA TGC AAC CCT GCT					
N K P M A A E I E G S D C E C N P A					
1791	1800	1809	1818	1827	1836
GGG AAG AAC TTC CCT GAA AAC CAA ATC CTG ATC AAA CGC ATG ATG ATT AAG TGT					
G K N F P E N Q I L I K R M M I K C					
1845	1854	1863	1872	1881	1890
GCT GAC GTG GCC AAC CCA TGC CGC CCC TTG GAC CTG TGC ATT GAA TGG GCT GGG					
A D V A N P C R P L D L C I E W A G					

FIGURE 4E

1899	1908	1917	1926	1935	1944
AGG ATC TCT GAG GAG TAT TTT GCA CAG ACT GAT GAA GAG AAG AGA CAG GGA CTA					
R I S E E Y F A Q T D E E K R Q G L					
1953	1962	1971	1980	1989	1998
CCT GTG GTG ATG CCA GTG TTT GAC CGG AAT ACC TGT AGC ATC CCC AAG TCT CAG					
P V V M P V F D R N T C S I P K S Q					
2007	2016	2025	2034	2043	2052
ATC TCT TTC ATT GAC TAC TTC ATA ACA GAC ATG TTT GAT GCT TGG GAT GCC TTT					
I S F I D Y F I T D M F D A W D A F					
2061	2070	2079	2088	2097	2106
GCA CAT CTG CCA GCC CTG ATG CAA CAT TTG GCT GAC AAC TAC AAA CAC TGG AAG					
A H L P A L M Q H L A D N Y K H W K					
2115	2124	2133	2142	2151	2160
ACA CTA GAT GAC CTA AAG TGC AAA AGT TTG AGG CTT CCA TCT GAC AGC TAA AGC					
T L D D L K C K S L R L P S D S					
2169	2178	2187	2196	2205	2214
CAA GCC ACA GAG GGG GCC TCT TGA CCG ACA AAG GAC ACT GTG AAT CAC AGT AGC					
2223	2232	2241	2250	2259	2268
GTA AAC GAG AGG CCT TCC TTT CTA ATG ACA ATG ACA GGT ATT GGT GAA GGA GCT					

FIGURE 4F

2277	2286	2295	2304	2313	2322
AAT GTT TAA TAT TTG ACC TTG AAT CAT TCA AGT CCC CAA ATT TCA TTC TTA GAA					
2331	2340	2349	2358	2367	2376
AGT TAT GTT CCA TGA AGA AAA ATA TAT GTT CTT TTG AAT ACT TAA TGA CAG AAC					
2385	2394	2403	2412	2421	2430
AAA TAC TTG GCA AAC TCC TTT GCT CTG CTG TCA TCC TGT GTA CCC TTG TCA ATC					
2439	2448	2457	2466	2475	2484
CAT GGA GCT GGT TCA CTG TAA CTA GCA GGC CAC AGG AAG CAA AGC CTT GGT GCC					
2493	2502	2511	2520	2529	2538
TGT GAG CTC ATC TCC CAG GAT GGT GAC TAA GTA GCT TAG CTA GTG ATC AGC TCA					
2547	2556	2565	2574	2583	2592
TCC TTT ACC ATA AAA GTC ATC ATT GCT GTT TAG CTT GAC TGT TTT CCT CAA GAA					
2601	2610	2619	2628	2637	2646
CAT CGA TCT GAA GGA TTC ATA AGG AGC TTA TCT GAA CAG ATT TAT CTA AAA AAA					
2655					
AAA AAA AAA AA 3'					

FIGURE 4G

1	-	L	A	C	F	L	D	K	H	H	I	I	I	I	D	H	R	N	P	R	Q	L	D	A	E	A	L	C	R	S	I	R	S	S	K	L	S	E	N	PDE8A(E)			
1	1	A	L	E	C	F	L	D	K	H	H	E	I	I	V	I	D	H	R	Q	T	Q	N	F	D	A	E	A	V	C	R	S	I	R	A	T	N	P	S	E	H	PDE8B(E)	
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A					
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B					
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952					
40	41	T	V	I	V	G	V	R	R	V	-	-	-	-	D	R	E	E	L	S	V	M	P	F	I	S	A	G	F	T	R	R	Y	V	E	N	P	N	I	M	A	C	PDE8A(E)
1	1	T	V	I	L	A	V	S	R	V	S	D	D	H	E	E	A	S	V	L	P	L	H	A	G	F	N	R	R	F	M	E	N	S	S	I	I	A	C	PDE8B(E)			
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A					
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B					
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952					
78	81	Y	N	E	L	Q	L	E	F	G	E	V	R	S	Q	L	K	L	R	A	C	N	S	V	F	T	A	L	E	N	S	E	D	A	I	E	I	T	S	E	PDE8A(E)		
1	1	Y	N	E	L	I	Q	I	E	H	G	E	V	R	S	Q	F	K	L	R	A	C	N	S	V	F	T	A	L	D	H	C	H	E	A	I	E	I	T	S	D	PDE8B(E)	
1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A				
12	12	S	K	P	W	L	-	-	-	V	G	W	D	Q	F	K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B			
118	121	D	R	F	I	Q	Y	A	N	P	A	F	E	T	M	G	Y	Q	S	G	E	L	I	G	K	E	L	G	E	V	P	I	N	E	K	-	K	A	D	L	PDE8A(E)		
1	1	D	H	V	I	Q	Y	V	N	P	A	F	E	R	M	M	G	Y	H	K	G	E	L	L	G	K	E	L	A	D	L	P	K	S	D	K	N	R	A	D	L	PDE8B(E)	
25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A				
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B				
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952				

FIGURE 5A

57	L	D	T	I	N	S	C	I	R	I	G	K	E	W	Q	G	I	Y	A	K	K	K	N	G	D	N	I	Q	Q	N	V	K	I	I	P	V	I	G	Q	PDE8A(E)	
61	L	D	T	I	N	T	C	I	K	K	G	K	E	W	Q	G	V	Y	A	R	R	K	S	G	D	S	I	Q	Q	H	V	K	I	T	P	V	I	G	Q	PDE8B(E)	
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A					
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B					
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952					
37	G	G	K	I	R	H	Y	V	S	I	I	R	V	C	-	-	-	N	G	N	K	A	E	K	I	S	E	C	V	Q	S	D	T	R	T	D	N	Q	T	PDE8A(E)	
31	G	G	K	I	R	H	F	V	S	L	K	K	L	C	C	T	D	N	N	K	Q	I	H	K	I	H	R	D	S	G	D	N	S	Q	T	E	P	H	S	PDE8B(E)	
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A				
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B				
	G	N	Q	V	S	E	Y	I	S	N	T	F	L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952				
34	G	K	H	K	D	R	R	K	G	S	L	D	V	K	A	V	A	S	R	A	T	E	V	S	-	-	Q	R	R	H	S	S	M	A	R	I	H	S	M	PDE8A(E)	
11	F	R	Y	K	N	R	R	K	E	S	I	D	V	K	S	I	S	S	R	G	S	D	A	P	S	L	Q	N	R	R	Y	P	S	M	A	R	I	H	S	M	PDE8B(E)
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8A				
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B				
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952					
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
12	T	I	E	A	P	I	T	K	V	I	N	V	I	N	A	A	Q	E	S	S	P	M	P	V	T	E	A	L	D	R	V	L	E	I	L	R	T	T	E	L	PDE8A(E)
31	T	I	E	A	P	I	T	K	V	I	N	I	I	N	A	A	Q	E	N	S	P	V	T	V	A	E	A	L	D	R	V	L	E	I	L	R	T	T	E	L	PDE8B(E)
	T	I	E	A	P	I	T	K	V	I	N	I	I	N	A	A	Q	E	S	S	P	M	P	V	T	E	A	L	D	R	V	L	E	I	L	R	T	T	E	L	PDE8A
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PDE8B				
	S	Q	I	T	G	L	K	K	L	V	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	g1705952				

FIGURE 5B

[illegible]

72	A A L I A A T I H D V D H P G R T N S F L C N A G S E L A I L Y N D T A V L E S																														PDE8A(E)
80	A A L I A A T V H D V D H P G R T N S F L C N A G S E L A V L Y N D T A V L E S																														PDE8B(E)
08	A A L I A A T I H D V D H P G R T N S F L C N A G S E L A I L Y N D T A V L E S																														PDE8A
	- -																														

FIGURE 5D

12 YFSQTDEEKQ QGLPVVMPV FDRNTCSIPK SQISFI DYFI T PDE8A(E)
16 YFAQTDEEK R QGLPVVMPV FDRNTCSIPK SQISFI DYFI T PDE8B(E)
18 YFSQTDEEKQ QGLPVVMPV FDRNTCSIPK SQISFI DYFI T PDE8A
15 YFAQTDEEK R QGLPVVMPV FDRNTCSIPK SQISFI DYFI T PDE8B
15 FFQ QGDRERER GMEIS - P MCD KHTAS V E K S Q V G F I D Y I V H g1705952

12 DMF DAWDAF V D L P D L M Q H L D N N F K Y W K G L D E M K L R N L R P P PDE8A(E)
16 DMF DAWDAF A H L P A L M Q H L A D N Y K H W K T L D D L K C K S L R L P PDE8B(E)
18 DMF DAWDAF V D L P D L M Q H L D N N F K Y W K G L D E M K L R N L R P P PDE8A
14 P L W E T W A D L V H P D A Q D I L D T L E D N R D W Y H S A I R Q S P S P L PDE8B g1705952

2 P E
6 S D S
8 P E
4 E E P G G L G H P S L P D K F Q F E L T L E E E E E D S L E V P G L P T T E PDE8A(E)
3 PDE8B(E)
8 PDE8A
9 PDE8B
4 E T F L A A E D A R A Q A V D W S K V K G P S T T V V E V A E R L K Q E T A S A g1705952

FIGURE 5E

FIGURE 5F

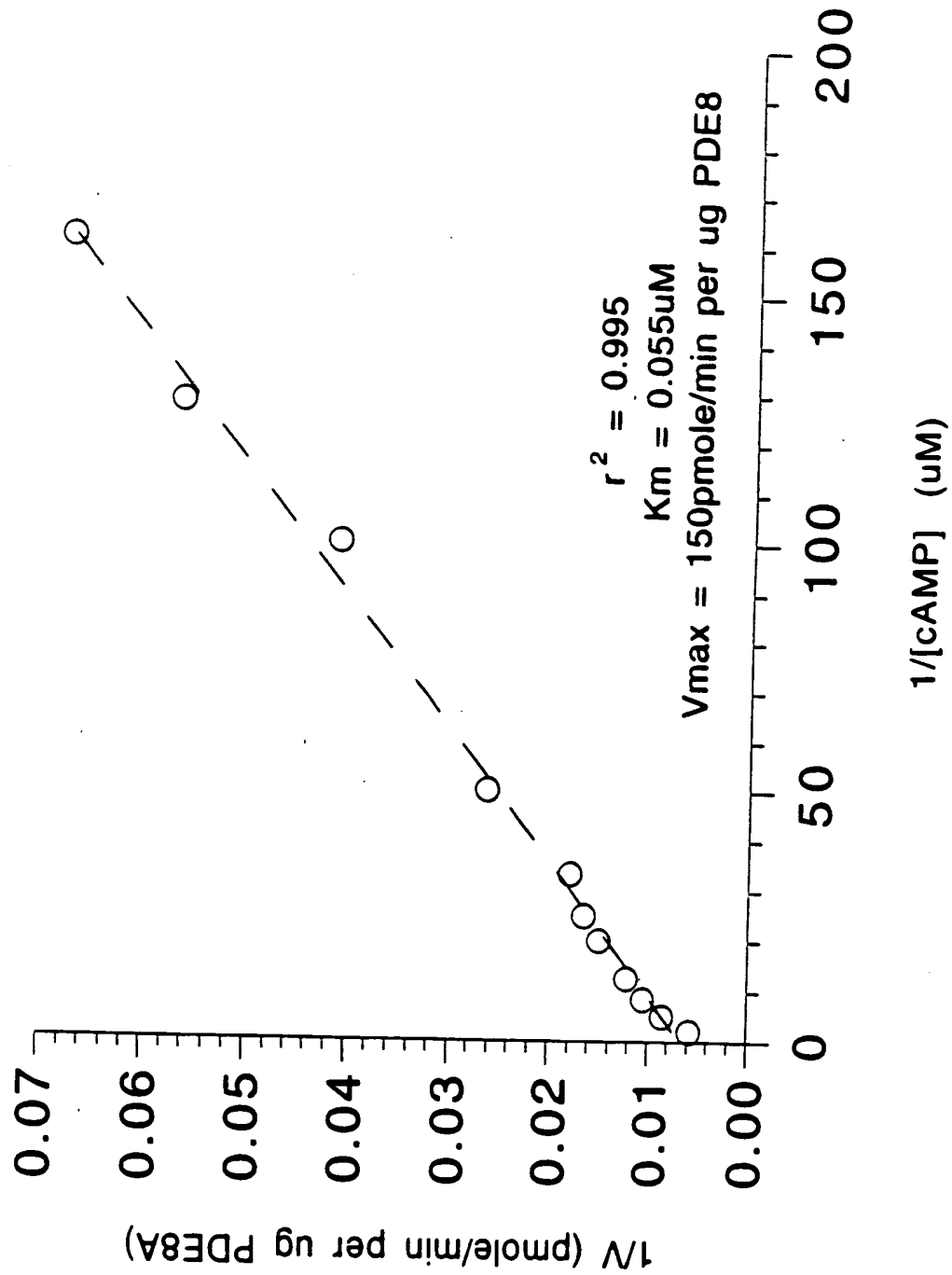


FIGURE 6

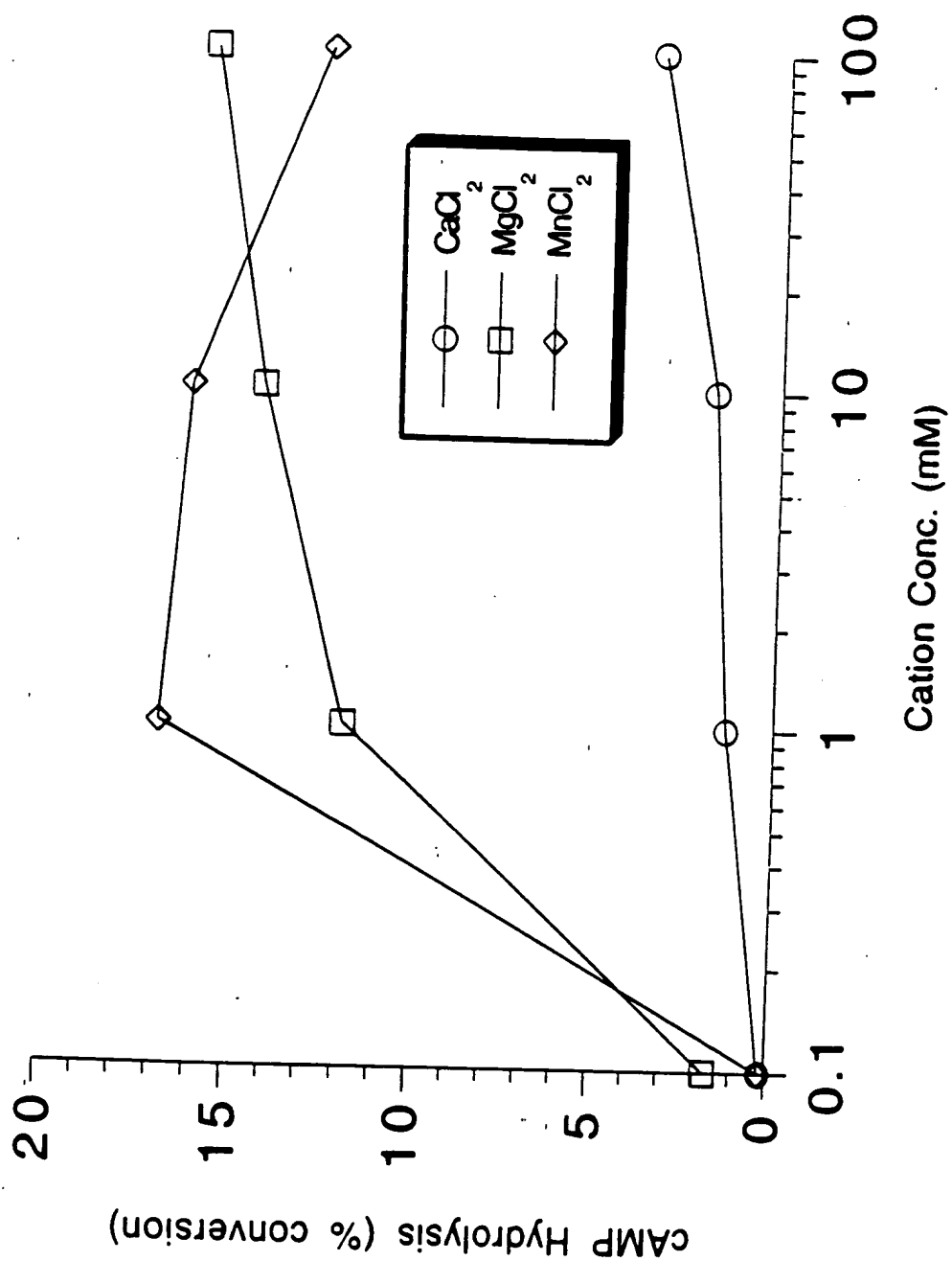


FIGURE 7

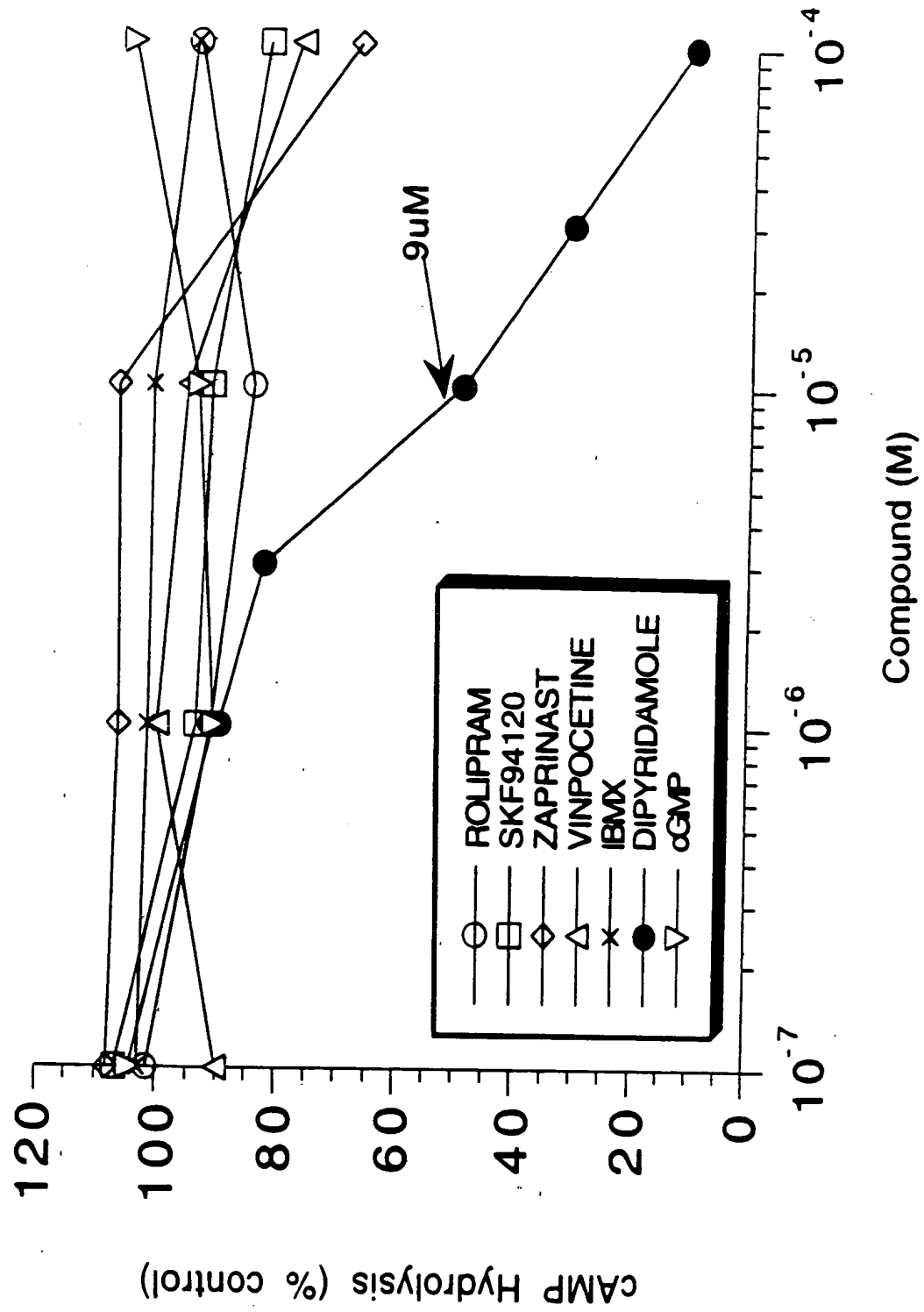


FIGURE 8